

PHOTIS TRAPHERUS, A NEW ELEPHANTINE
SPECIES FROM THE CARIBBEAN SEA
(CRUSTACEA: AMPHIPODA)

James Darwin Thomas and J. L. Barnard

Abstract.—*Photis trapherus* differs from its Californian counterpart, *P. elephantis*, in characters of male pereopod 6: the smallness of the posteroventral tooth on article 2, the longer article 4 with separated posterior keel and no significant posteroventral lobe, the relatively thinner article 2; the lack of distal expansion on article 4 of pereopod 7; the distinct concavity and defining tooth on the palms of gnathopods 1–2.

Photis trapherus, new species
Figs. 1–3

Etymology.—Gr., trapheros, stout.

Diagnosis.—Male eyes not enlarged; coxae 1–2 not shortened; coxa 3 not much wider than coxa 4; gnathopods 1–2 feeble, with distinctly concave palm and defining tooth, article 2 not produced anterodistally, stridulation ridges absent everywhere; pereopod 6: posteroventral tooth on article 2 very small, article 4 extremely elongate, with separated posterior keel and no significant posteroventral lobe, article 2 much thinner than article 4; distal expansion on article 4 of pereopod 7 absent.

Female.—Like typical male but pereopod 6 of ordinary photis form. Gnathopods like typical male as represented by male “a.”

Male “k.”—Gnathopod 2 slightly enlarged, propodus broader than in typical male as represented by holotype, palm below main notch much broader, with distinct tooth between main notch and finger hinge, dactyl more slender, main inner spine relatively smaller than in typical male.

Holotype.—USNM 242013, male “a” 4.88 mm.

Type locality.—Pte. Guignard, Dominica, 7 m, coarse quartz sand with large amounts of dark mineral grains and unicellular algal strands, 19 May 1987, coll. J. D. Thomas.

Material.—Paratypes, type-locality only, ovigerous female “c” 2.50 mm, male “d” 3.58 mm and 5 other specimens. Jioquito Bay, Dominican Republic, 19°53.2'N, 71°38.5'W, 2 m, muddy sand in mangroves, 7 Nov 1980, coll. R. P. Higgins and B. W. Pollock, male “j” 2.55 mm, male “k” 2.53 mm and 50 + other specimens. Walker Cay, Turks and Caicos Islands, benthic washings, 1 m, 14 April 1988, coll. R. Heard, 60 specimens. Discovery Bay, Jamaica, 7 Sep 1986, algal covered rubble on fore-reef, 3–4 m, JDT-JAM 2A, J. D. Thomas, collector, 13 specimens. Key Largo, Florida, canal, 3 m, 7 Sep 1987, station LAC, 1 specimen.

Remarks.—As demonstrated with silver nitrate stain, penial processes are present on both hypermales (with elephantine pereopod 6) and normal or younger males that resemble females. Males with pereopod 6 fully developed have gnathopod 2 like females and do not lose the penial processes. It appears, therefore, that the previous report (Barnard, 1962) suggesting the elephantine condition of the pereopods might result from neutering by a parasite is unwarranted. As described for male “k” above, the “extremely” terminal male has a better developed gnathopod 2 than other males.

Relationship.—Differing from the similar *Photis elephantis* J. L. Barnard, 1962, from California, in characters of male pereopod

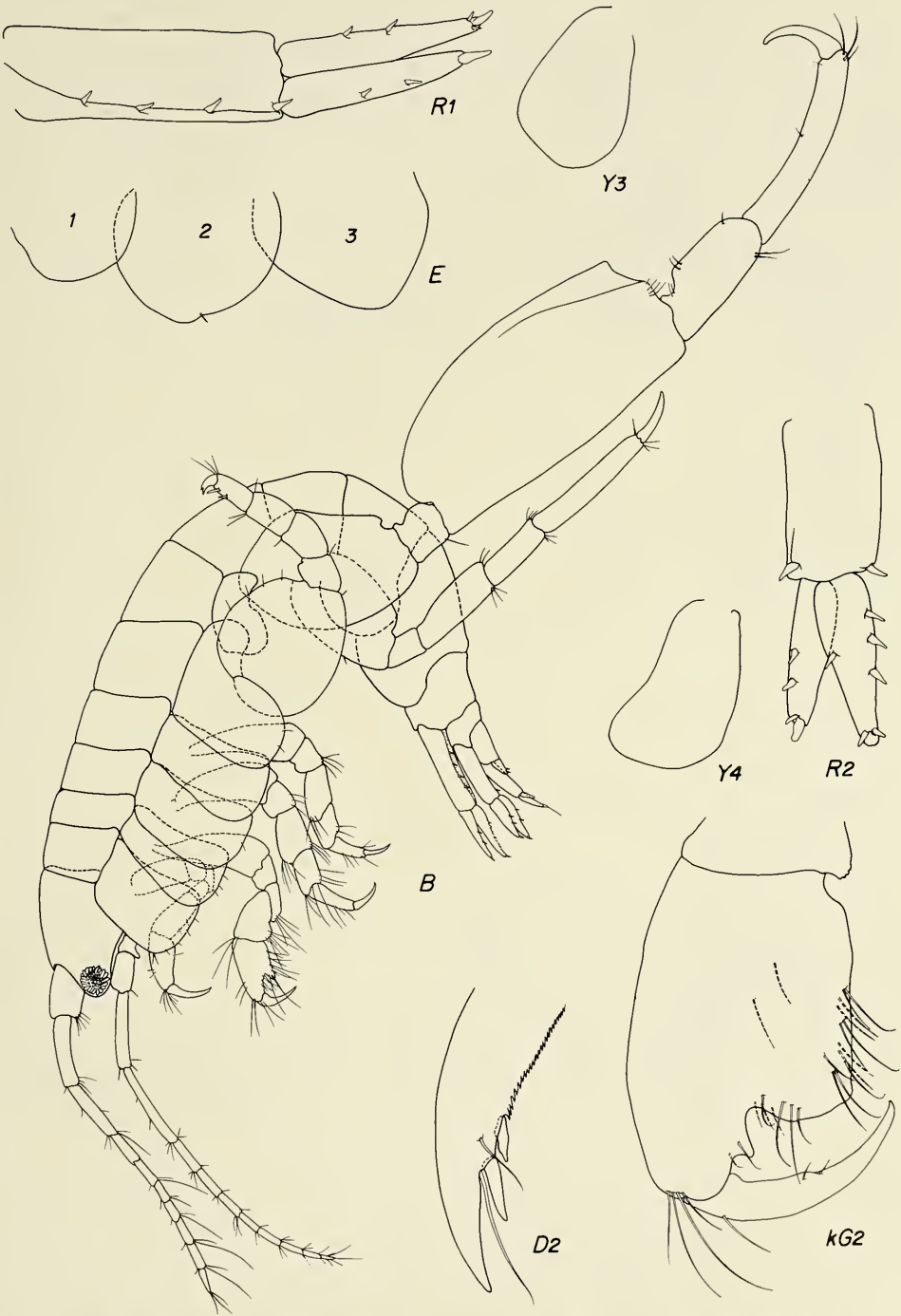


Fig. 1. *Photis trapherus*, new species, figures lacking letter to left of labels = holotype male "a" 4.88 mm; k = male "k" 2.53 mm. Capital letters in figures refer to parts; lower case letters to left of capital letters refer to specimens and to the right refer to adjectives as described below: B, body; C, coxa; D, dactyl; E, epimeron(a); G, gnathopod; L, labium; M, mandible; N, right molar; P, pereopod; Q, left lacinia mobilis; R, uropod; S, maxilliped; T, telson; U, upper lip; X, maxilla; r, right; t, left.

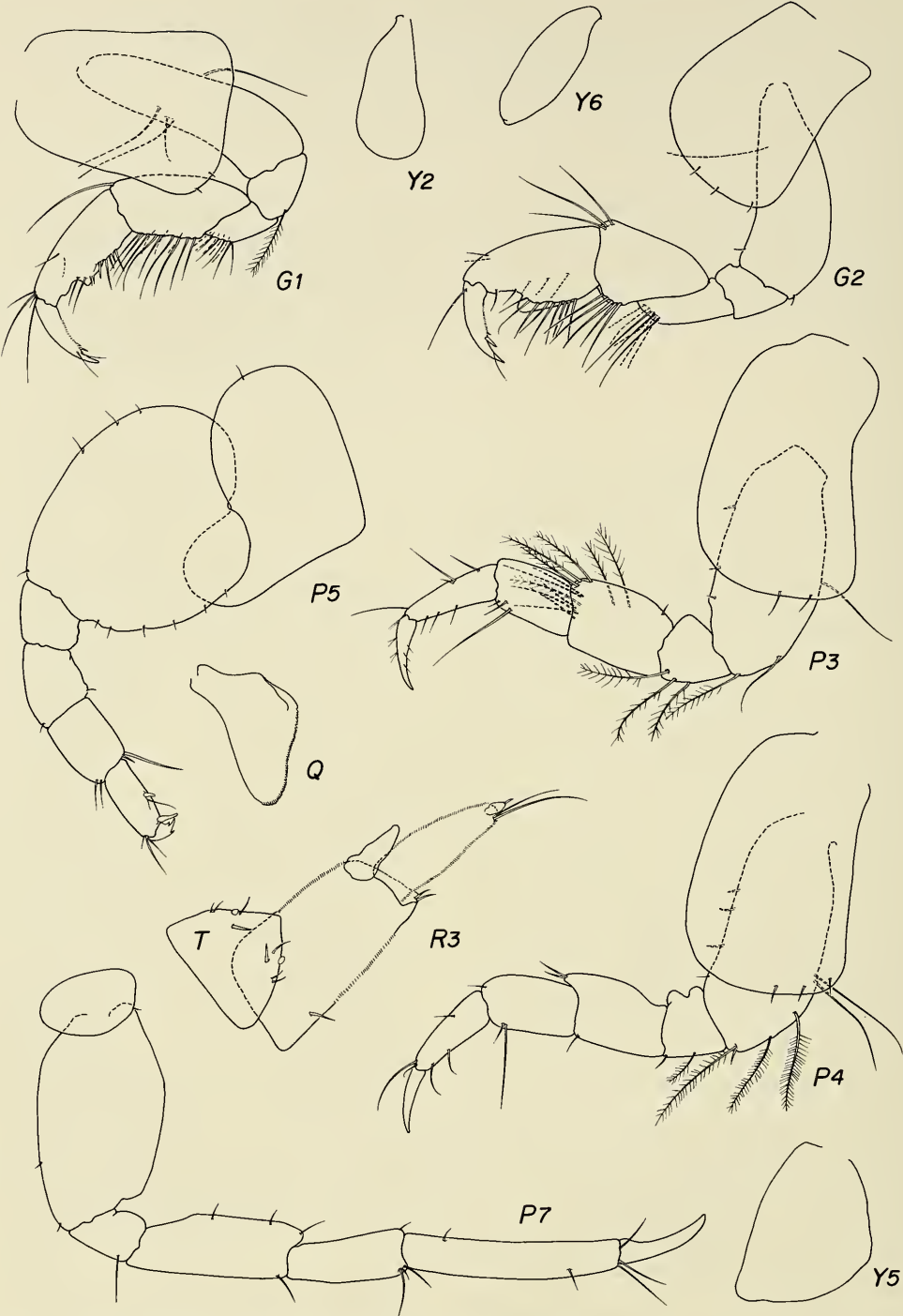


Fig. 2. *Photis trapherus*, new species, holotype male "a" 4.88 mm.

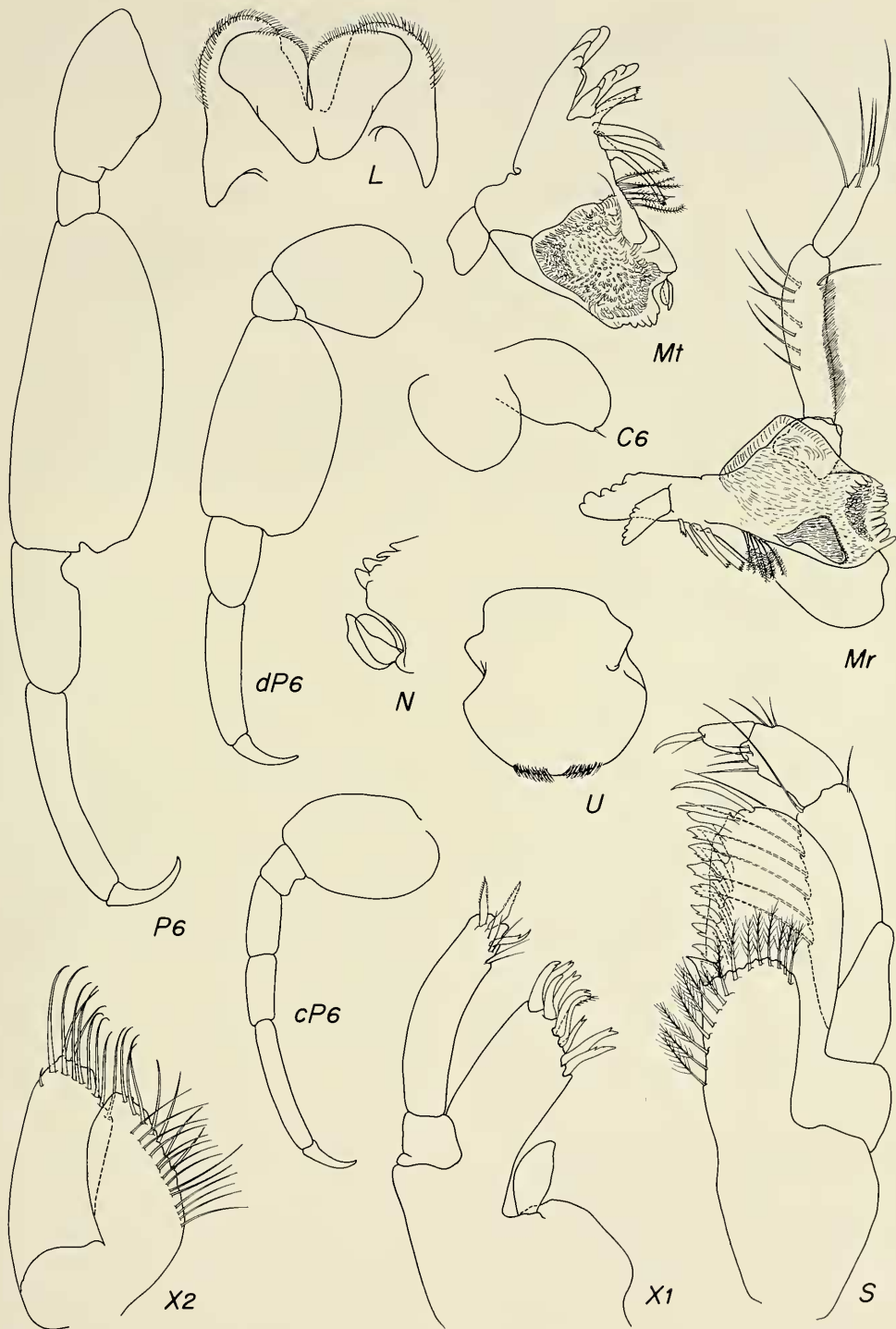


Fig. 3. *Photis trapherus*, new species, figures lacking letter to left of labels = holotype male "a" 4.88 mm; c = female "c" 2.50 mm; d = male "d" 3.58 mm.

6: the smallness of the posteroventral tooth on article 2, the longer article 4 with separated posterior keel and no significant posteroventral lobe, the relatively thinner article 2; the lack of distal expansion on article 4 of pereopod 7; the distinct concavity and defining tooth on the palms of gnathopods 1-2.

Distribution.—Dominica (Lesser Antilles); Dominican Republic (Greater Antilles); Turks and Caicos Islands (near Bahamas); Jamaica; Key Largo, Florida; 1-7m.

Acknowledgments

We thank R. P. Higgins and R. W. Heard for collections of the material. The first author was supported by NSF Grant BSR8515186. We thank the CCRE com-

mittee and Dr. K. Ruetzler, of Smithsonian Institution, for funds to travel to Dominica. This is Contribution No. 279 of the CCRE committee of the National Museum of Natural History.

Literature Cited

Barnard, J. L. 1962. Benthic marine Amphipoda of southern California: families Aoridae, Photidae, Ischyroceridae, Corophiidae, Podoceridae.—*Pacific Naturalist* 3:1-72, 32 figs.

(JDT) Reef Foundation, P.O. Box 569, Big Pine Key, Florida 33043; (JLB) NHB-163, Department of Invertebrate Zoology, National Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560.